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Pseudocercospora lysidices sp. nov. on *Lysidice rhodostegia* from China

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Abstract—*Pseudocercospora lysidices* on *Lysidice rhodostegia* (*Fabaceae* subfam. *Caesalpinioideae*) is introduced as a new species, based on Chinese specimens previously misidentified as "*Pseudocercospora lathyri*." The new species is described, illustrated, and compared with other *Pseudocercospora* species on caesalpiniaceous hosts. The specimens examined are deposited in the Herbarium of the Institute of Microbiology, Chinese Academy of Sciences, Beijing (HMAS).

Key words—anamorphic ascomycete, *Cercospora*, taxonomy, cercosporoid fungi

Introduction

Cercospora lathyri Dearn. & House was described on *Lathyrus japonicus* [= *L. martimus*] (*Fabaceae* subfam. *Faboideae*), forming angular leaf spots, relatively large stromata (30–60 µm diam.), short and narrow conidiophores (5–20 × 3–4 µm), and conidia (40–75 × 2–3.5 µm), but without any details on the conspicuousness of the conidiogenous loci (House 1916). Guo & Liu (1992), who examined a Chinese collection of a cercosporoid hyphomycete on *Lysidice rhodostegia*, considered the morphological characteristics of this fungus to be rather similar to those of *Cercospora lathyri*, an assumption that was based only on descriptions of the latter species and without examining the type material. They assigned the Chinese material to *C. lathyri*, and introduced the new combination *Pseudocercospora lathyri* (Dearn. & House) Y.L. Guo &

X.J. Liu due to unthickened and undarkened conidiogenous loci and hila of the conidia. Braun & Mel'nik (1997) re-examined the type specimen of *C. lathyri* and found small but conspicuously thickened and darkened conidiogenous loci and hila and subcylindrical-filiform acicular to narrowly obclavate hyaline conidia, suggesting that *C. lathyri* must be maintained in *Cercospora* s. str. and that the *Pseudocercospora* found on *Lysidice rhodostegia* in China represents a different species, which we describe here as a new species, *Pseudocercospora lysidices*.

Materials & methods

The original collection of the specimen in 1961 is described in the Type designation section. Small pieces of leaf lesions were cut off and heated in Lactic acid-phenol-glycerol-distilled water (1:1:2:1) between slides and coverslips over flame to become transparent. The tissues were examined microscopically without any staining using oil immersion (bright field and phase contrast) lenses on a standard light Olympus CX 21 microscope. Thirty conidia and other structures were measured using 400 magnification; the measurement ranges include the extremes given in parentheses. The type specimen is deposited at the Mycological Herbarium of Academia Sinica, Beijing, China (HMAS)

Taxonomy

Pseudocercospora lysidices Y.L. Guo & F.Y. Zhai, **sp. nov.** FIG. 1

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MISAPPLIED NAME: "*Pseudocercospora lathyri*" sensu Y.L. Guo & X.J. Liu (1992).

Differs from *Pseudocercospora guanicensis* in its distinct amphigenous leaf spots, its larger stromata, its shorter and narrower pale olivaceous conidiophores, and its cylindrical-obclavate, paler, shorter, and much narrower conidia.

TYPE: China, Guangdong Province, Guangzhou, on living leaves of *Lysidice rhodostegia* Hance (*Fabaceae* subfam. *Caesalpinioideae*), 7 XI 1961, coll. Q.M. Ma & X.J. Liu (**Holotype**, HMAS 59072).

ETYMOLOGY: referring to the host genus *Lysidice*.

Leaf spots amphigenous, subcircular, angular to irregular, 2–8 mm diam., grayish white in the center, margin dark brown or totally dark brown on the upper surface, brown to dark brown on the lower surface. Caespituli amphigenous. Mycelium internal. Stromata globose, dark brown, 25–65 µm diam. Conidiophores densely fasciculate, pale olivaceous, uniform in color, irregular in width, not branched, geniculate in the upper part, straight to curved, obtusely rounded to conical at the apex, 0–1-septate, thin-walled, smooth, 6.5–22(–30) × 2.5–4.3 µm. Conidiogenous cells integrated, terminal or conidiophores reduced to conidiogenous cells, conidiogenous loci inconspicuous, unthickened, undarkened. Conidia solitary, cylindrical-

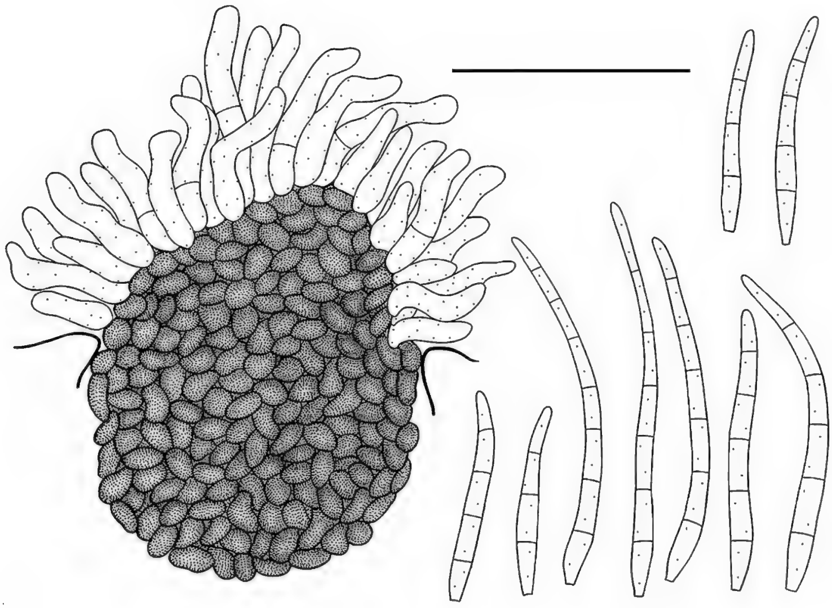

Fig. 1. *Pseudocercospora lysidices* (holotype, HMAS 59072). Conidiophores and conidia. Scale bar = 40 µm.

obclavate, subhyaline to very pale olivaceous, straight to curved, obtuse at the apex, obconically truncate to almost truncate at the base, inconspicuously 3–7-septate, thin-walled, smooth, 24–86.5 × 2.2–3.5 µm.

Notes: There are four other *Pseudocercospora* spp. described on hosts belonging to the *Fabaceae* subfam. *Caesalpinioideae: Pseudocercospora caesalpiniae* T.K. Goh & W.H. Hsieh, *P. caesalpiniigena* U. Braun, *P. caesalpiniicola* U. Braun et al., and *P. guanicensis* (E. Young) U. Braun & Crous, but they differ in some respects from the new species.

Pseudocercospora caesalpiniae, although also forming angular to irregular leaf spots, amphigenous caespituli, and short and narrow conidiophores (5–15 × 1.5–3 µm), differs from *P. lysidices* in its external mycelium with solitary conidiophores, the lack or production of smaller stromata (≤40 µm diam.), and its acicular to narrowly obclavate conidia (Goh & Hsieh 1989).

Pseudocercospora caesalpiniigena [≡ *Cercoseptoria caesalpiniae* J.M. Yen et al.] differs from *P. lysidices* in lacking stromata and in forming indistinct leaf spots, longer and broader conidiophores (30–60 × 4–5 µm), and cylindrical conidia (Yen et al. 1982, Braun & Freire 2004).

Pseudocercospora caesalpiniicola [≡ *Phaeoisariopsis caesalpiniae* J.M. Yen et al.] also forms large stromata (40–75 µm diam.) but is distinguished from *P. lysidices* by indistinct leaf spots, synnematous and hypogenous conidiomata, and longer and broader conidiophores (20–150 × 3–5 µm) and conidia (20–110 × 2.5–4.5 µm) (Yen et al. 1982, Hernández-Gutiérrez & Dianese 2009).

In comparison to *P. lysidices, P. guanicensis* [≡ *Cercospora guanicensis* E. Young] also forms circular to subcircular leaf spots and small stromata (30–45 µm diam.), but its conidiophores are arranged in dense fascicles, darker in color (olivaceous brown), and much longer and broader (20–215 × 4–8 µm) and its conidia are obclavate to obclavate-cylindrical and longer and broader (40–105 × 5–7 µm; U. Braun, pers. comm.; Chupp 1954; Crous & Braun 2003).

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